

C2 4th Amended (Amended) The mammary gland produced antithrombin III of claim 1 further comprising fucose.

C3 5th (Amended) The mammary gland produced antithrombin III of claims 1, 2, or 7 wherein the antithrombin III further comprises a higher level of mannose than plasma derived antithrombin III.

10. (Reiterated) The mammary gland produced antithrombin III of claim 1, 2, 6, or 7 wherein the antithrombin III is produced in the mammary glands of a transgenic goat.

11. (Reiterated) A method for producing antithrombin III in mammalian milk, comprising:

a. providing a transgenic mammal that expresses in its mammary tissue a transgene which encodes a human antithrombin III with a monosaccharide composition which comprises GalNAc, wherein said human antithrombin III is secreted into the milk of the mammal; and

b. collecting milk from the transgenic animal which contains the human antithrombin III

to thereby obtain human antithrombin III with a monosaccharide composition which includes GalNAc.

12. (Reiterated) The method of claim 11, further comprising isolating human ATIII from the milk.

13. (Reiterated) The method of claim 11, wherein the transgenic mammal is a goat.

14. (Reiterated) The method of claim 11, wherein the transgenic mammal is a mouse.

15. (Reiterated) A glycosylated human antithrombin III which is produced in mammary gland of a non-human transgenic mammal, wherein the antithrombin III comprises a monosaccharide composition which comprises GalNAc.

C4 12. (Amended) A glycosylated human antithrombin III which is produced in the mammary gland of a non-human transgenic mammal, wherein the antithrombin III comprises a monosaccharide composition which comprises fucose.

13. (Amended) A glycosylated human antithrombin III which is produced in the mammary gland of a non-human transgenic mammal, wherein the antithrombin III comprises a monosaccharide composition which comprises a higher level of mannose than plasma derived antithrombin III.

14. (Amended) The glycosylated human antithrombin III of claim 13, wherein the antithrombin III has a higher affinity for heparin binding as compared to plasma derived antithrombin III.--

Please add claims 19-24.

C5 15. (New) A method for producing antithrombin III in mammalian milk, comprising:
providing a transgenic mammal that expresses in its mammary tissue a transgene which encodes a human antithrombin III with a monosaccharide composition which comprises fucose, wherein said human antithrombin III is secreted into the milk of the mammal; and
collecting milk from the transgenic animal which contains the human antithrombin III
to thereby obtain human antithrombin III with a monosaccharide composition which includes fucose.

¹⁶
~~20.~~ (New) The method of claim ¹⁵~~19~~, wherein the transgenic mammal is a goat.

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~~21.~~ (New) The method of claim ¹⁵~~19~~, wherein the transgenic mammal is a mouse.

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~~22.~~ (New) A method for producing antithrombin III in mammalian milk, comprising:

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providing a transgenic mammal that expresses in its mammary tissue a transgene which encodes a human antithrombin III having a monosaccharide composition which comprises a higher level of mannose than plasma derived antithrombin III, wherein said human antithrombin III is secreted into the milk of the mammal; and

collecting milk from the transgenic animal which contains the human antithrombin III

to thereby obtain human antithrombin III having a monosaccharide composition which includes a higher level of mannose than plasma derived antithrombin III.

¹⁹
~~23.~~ (New) The method of claim ¹⁸~~22~~, wherein the transgenic mammal is a goat.

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~~24.~~ (New) The method of claim ¹⁸~~22~~, wherein the transgenic mammal is a mouse.--

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